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READINESS THROUGH SAFETY
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OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

Blind to Risk

JOHN J. MCCOY JR.
Letterkenny Army Depot, Pennsylvania

Success was finally at hand as the 700-pound elk laid at my feet. This magnificent creature was the culmination of hours upon hours of physical preparation, mental concentration and pure luck. I had achieved a lifelong dream — taking an elk with archery tackle.

With some help from my hunting partner, we quartered the elk into several 100-pound bags of precious meat and more than 300 inches of antler. The pack-out was grueling to say the least — taking six trips to deliver it all to our ATVs. Adrenaline still coursed through my body as I loaded the cargo securely to the machine. All that was left was an easy four-mile ride along the ridge of the mountain and down the steep slope to the truck.

I was steadfast in my focus. Getting the meat to the freezer was the only thing on my mind. I began the descent down the rocky mountain slope to the tree line like I'd done many times before. This trip, however, would be different.

In my rush to get to the truck without spoiling the meat, I failed to do some critical thinking — risk management! The ATV was way too heavy with its meat-laden front and antler/head/cape-weighted rear. On top of that, I had all my gear on my back too.

It was a rock the size of a softball that did me in. On the steep slope, I hit the rock, causing the ATV's tires to turn quickly to my left. In slow motion I could feel the machine's rear start to lift and shift sideways. A rollover

FYI

To find out your ATV's maximum allowable load rating, check out the owner's manual. Also, always wear a helmet and other personal protective equipment as required by Army Regulation 385-10.

was imminent. I braced for the crash, thinking I could defend myself by using my legs to keep from being crushed by the ATV or impaled by the antlers.

On the first roll, I was able to use the ATV's momentum to prevent being crushed. On the second and third rolls, though, I was just a passenger on a death plunge down a rocky mountain. Fortunately — somehow, someway — after several rolls, the ATV hit the only pine tree within a 100 yards.

I remember the silence as I laid on the ground. I was alone, as my hunting partner had stayed back a bit due to the heavy dust stirred up from the trail. I waited for the pain to overtake my body, but it never came. I don't know how, but miraculously I was in one piece and relatively unharmed. I'm convinced the only thing that saved me was some divine intervention!

I was lucky that day. Adrenaline, pride and overconfidence almost got me killed. The ATV was extremely overloaded — much too heavy on the front for me to control. Although I had spent months in preparation to achieve my goal, I didn't take time to consider safety. I should have assessed the hazards and made smart decisions to protect myself on a routine ride that was anything but routine. Had I performed even the quickest risk assessment, I would have realized I was setting myself up for failure.

Nowadays I am much smarter in my approach to dangerous tasks. Almost dying does that to you. When I look at the 6-by-6-foot bull in my living room, I not only see the trophy of a lifetime; I see how quickly we can become blind to risk. It's a lesson I'll never forget. ■

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Mission Statement:
The Army Safety Team provides the Army with safety and risk management expertise to preserve readiness through the prevention of accidental loss of our Soldiers, Civilians, Families and vital resources.

HERE IT COMES

The Great Outdoors

Autumn and winter offer a number of exciting activities for outdoor enthusiasts. However, they also present challenges unique to the cooler-weather months. Whether hunting, hiking or riding an ATV, ensure you're prepared for all the hazards the change of seasons bring.

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Kill the Chill

COMPILED BY THE KNOWLEDGE STAFF

Each year, hundreds of Soldiers experience cold-weather-related injuries. The responsibility for preventing these injuries is a command and leadership function, as well as a personal responsibility for each Soldier.

Exposure to the cold can lead to a variety of problems for Soldiers and leaders. However, while the cold makes military tasks more difficult, it does not make them impossible. The key to overcoming the cold and successfully completing the mission lies within an understanding of cold weather injuries and how to prevent them. Officials at the Armed Forces Health Surveillance Center offer the following descriptions of the most common cold weather injuries and information on how to prevent them.

Chilblains

Chilblains are a nonfreezing cold injury resulting from repeated, prolonged skin exposure to cold and wet (high humidity) temperatures above freezing. Exposed skin becomes red, tender and hot to the touch and is usually itchy. These symptoms can worsen to an aching, prickly (pins and needles) sensation and then numbness. Chilblains can develop in exposed skin in only a few hours. The most commonly affected areas are the ears, nose, fingers and toes.

Immersion foot/trench foot

Immersion foot/trench foot is a nonfreezing injury that results from prolonged exposure to wet conditions between 32-60 F or inactivity with damp socks and boots. Immersing feet in cold water, not changing socks frequently, not maintaining proper hygiene and allowing sweat to accumulate inside boots or gloves will soften the skin, causing tissue loss and often infection. Symptoms in affected areas include cold, swollen, discolored and waxy flesh accompanied by tingling sensations, numbness and pain. In extreme cases, the flesh dies and amputation may be necessary.

Frostnip

Frostnip is the freezing of the top layers of skin tissue and is considered the first degree of frostbite. Frostnip usually results from short-duration exposure to cold air or contact with a cold object such as metal. Exposed skin such as the cheeks, ears, fingers and wrists are more likely to develop frostnip. The top layer of frozen skin becomes white and waxy and feels hard and rubbery while the deeper tissue is still soft. Affected areas feel numb and may become swollen but do not blister. Frozen skin thaws quickly, becoming red and painful with eventual peeling. Complete healing usually occurs within 10 days, and frostnip is normally reversible.

Frostbite

Frostbite is the actual freezing of skin tissue. It can extend through all layers of the skin and freeze muscle and bone. Frozen skin may turn red and then gray-blue with blisters. In the worst cases, the skin dies and turns blue-black. At this stage, amputation is often required. Deep frozen skin feels wooden to the touch with zero mobility of the affected body part. Instantaneous frostbite can occur when skin comes in contact with super-cooled liquids, including petroleum, oils and lubricants, fuel, antifreeze and alcohol — all of which remain liquid at temperatures as low as minus 40 F.

Hypothermia

Hypothermia is a potentially life-threatening condition. It is defined as a general cooling of the body's core temperature below 95 F (normal body temperature is 98.6 F). Hypothermia sets in when body heat loss exceeds the body's heat production due to prolonged cold exposure. Although hypothermia is usually associated with cold climates, it can occur at temperatures well above freezing, especially when a person is exposed to wet conditions over an extended period of time.

Signs and symptoms of hypothermia change as body temperature falls. Mental functions typically decline first, marked with impaired decision-making ability, slurred speech, disorientation, incoherence, irrationality and possible unconsciousness. Muscle functions deteriorate with shivering and loss of fine motor ability (i.e., unable to complete tasks with hands), progressing to stumbling, clumsiness and falling. In severe cases, shivering ceases and the victim exhibits stiffness and an inability to move. Pulse and respiration rates can decrease, progressing to unconsciousness, irregular heartbeat and death.

Unfortunately, early signs and symptoms of hypothermia can be difficult to recognize and may go undetected. Victims may deny they are in trouble, so believe the symptoms, not the victim.

Dehydration

Dehydration is a lack of water in the body. Most people associate dehydration with hot weather, but it is very easy to become dehydrated in cold weather. Soldiers can fall victim to dehydration when they fail to drink enough liquid and underestimate fluid loss from sweating. Proper hydration is especially important in cold weather because dehydration adversely affects the body's resistance to cold injury, increasing the chance of cold weather injuries. Remember that proper hydration is essential to supplying the fuel and energy necessary for heat production.

Conclusion

Understanding the factors contributing to cold weather injuries provides a better understanding of the best methods to combat the cold. Environmental factors that can contribute to cold weather injuries include temperature, wind, rain, immersion and altitude; workload; duration of cold/wet exposure; and individual risk factors such as physical fitness, fatigue, health, prior history of cold injury, use of medications, alcohol, nicotine and poor nutrition.

Cold weather injuries are preventable, so Soldiers of all ages must be prepared to kill the chill. Remember, battling the cold is like battling any other enemy — mission success happens only through proper planning and training. Don't get left out in the cold this winter. ■

Did You Know?

Anyone can become a cold weather casualty. However, according to the U.S. Army Public Health Center, the typical victim …

- is male
- about 20 years old.
- from a warm climate.
- is an E4 or below.
- has less than 18 months in service.
- uses tobacco, alcohol and/or medications.
- neglects proper foot care.

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Preventing Cold Injuries

Individuals can work and play in cold environments if they are properly prepared and understand basic control measures to prevent cold weather injuries.

Keep the body warm

- Keep moving by exercising big muscles (arms and legs) to keep warm.
- Avoid alcohol use. Alcohol impairs the body's ability to shiver and gives a false sense of warmth.
- Avoid all tobacco products, as they decrease blood circulation to the skin.
- Eat all meals to maintain energy.
- Drink water or warm non-caffeinated fluids to prevent dehydration. Drinking warm liquids like tea and hot chocolate that contain sugar provides energy to help the body generate additional heat.
- Limit the amount of time spent outside on extremely cold days and periodically move into warm areas such as warming tents.

Wear proper clothing

- Wear several layers of loose clothing rather than one or two bulky layers. Air trapped between layers acts as insulation against the cold. Layers may also be removed if you become too hot. Additionally, loose clothing allows blood to circulate to the extremities.
- Ensure all clothing is in good condition, clean and dry. Change wet, damp clothes immediately.

Protect feet

- Carry extra pairs of socks and change damp socks immediately. Use foot powder to help absorb moisture.
- Avoid tight socks and boots, and never over-tighten boots or shoes.
- Wear overshoes to keep boots and socks clean and dry.

Protect hands

- Wear gloves, mittens, or gloves and mittens with inserts to avoid frostbite injuries.
- Keep gloves and mittens clean and dry. Change damp gloves immediately.
- Warm hands under clothes if they become numb.
- Avoid skin contact with snow, fuel or bare metal that has been exposed to the cold for extended periods.

Protect head, face and ears

- Wear a hat. A lot of the body's heat is lost through an uncovered head.
- Cover your face and ears with a scarf to prevent frostbite injuries. In combination, a hat and scarf protect the skin and retain body heat.
- Warm your face and ears by covering, but not rubbing, with your hands.
- Wear sunscreen.
- Exercise facial muscles to help maintain circulation.

Protect friends and family

- Watch for signs of frostbite and other cold weather injuries in your buddies.
- Ask about and assist with rewarming the feet, hands, ears and face.
- Immediately treat persons showing any signs or symptoms of cold injury.
- Remove sick and injured individuals from the cold; they are very susceptible to cold injuries.

More information on cold weather safety and many other winter safety topics is available on the U.S. Army Combat Readiness Center's autumn/winter seasonal safety campaign website at: https://safety.army.mil/MEDIA/SeasonalSafetyCampaigns/AutumnWinter2016-17.aspx.

HERE IT COMES

Cold Weather Injury Prevention

As cooler weather approaches, it's crucial that Soldiers understand the importance of protecting themselves to avoid becoming a cold weather injury statistic. Cold weather injuries sideline Soldiers and impact a unit's readiness. The right conditions can help set up anyone for failure when it comes to cold weather injuries, regardless of their rank, age, fitness level or gender.

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The Wind Zone Model

LT. COL. JOSHUA DAY
State Army Aviation Officer
Colorado National Guard

What is power management? This term means many things to many people. Most agree it has something to do with engine performance and torque. The instructors at the High-Altitude Army National Guard Aviation Training Site like to think there's more to power management than just the torque gauge. At HAATS, power management encompasses three things: understanding the environment; understanding the aircraft; and understanding yourself. This article will focus on understanding the environment, which encompasses many things.

One of the most important components is the interaction of wind and terrain. At HAATS, we call this Wind and Terrain Analysis. This analysis maintains that wind flows over and around obstacles in a consistent and predictable manner. The ability to predict the flow of the wind is the result of understanding and practicing WTA principles, rules and methodologies, which have been developed through research and experiment, both in the laboratory and field.

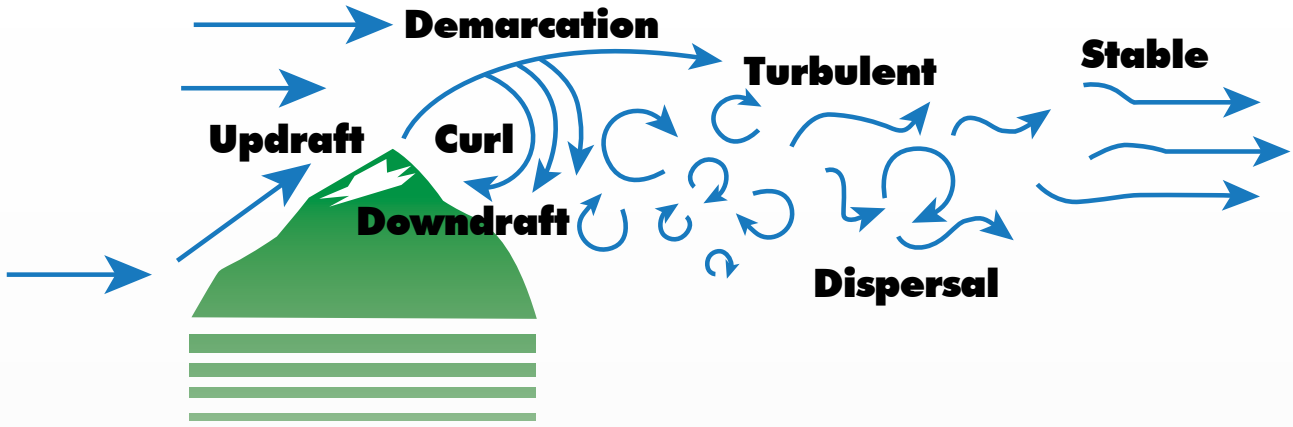
The first requirement to achieve this ability is to believe it can be accomplished. Most pilots dismiss the notion as unnecessary or believe it's far too complicated an issue. This is particularly true in mountainous environments. Airflow responds to the same laws of fluid dynamics as water or any other gas. While we often cannot see the movement, we can always detect it directly or indirectly. It is this ability which allows us to develop the skill to predict and, ultimately, see the wind. The components we need to know and integrate will follow below.

Air flows much like water and has characteristics aviators should note and test while flying in their area of operations. Air follows the path of least resistance. It will take the shortest and/or least obstructed route to fill any lows created by high winds over rough terrain. In canyons and drainages, the wind accelerates in the resultant venturi due to increasing pressure differentials. In winding turns, they accelerate to the outside of the turn, exactly like water, leaving eddies on the inside of turns. When colliding with an equal and opposing force, pilots can expect an opposite and turbulent flow. This opposite reaction can take the shape of a cliff face or another air current.

It is imperative aviators combine the principles in the preceding paragraph with the characteristics of stability and the mechanics of prevailing and valley winds to understand and apply the cornerstone of mountain wind predictions — the Wind Zone Model. The five zones are updraft, downdraft, turbulent, dispersal and stable zones (as depicted in Figure 1 on the following page).

In addition, two other terms require explanation: The demarcation line is the point

FIGURE 1



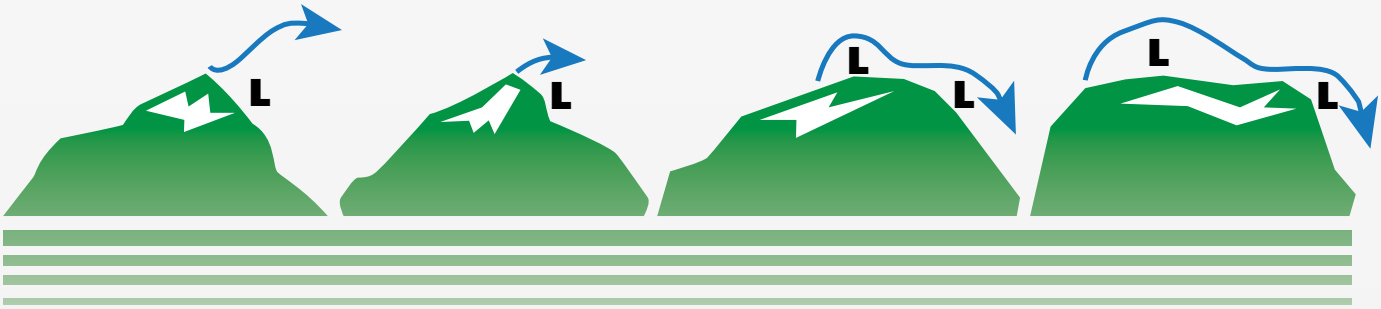
separating the updraft and downdraft zones; the curl, or low pressure, is created by the wind's passage over or around an obstacle.

The demarcation line's angle and height is established by three factors: the velocity of the wind, steepness of the slope and angle at which the wind strikes the slope. It can be considered an extension of the slope as it rises above and beyond the obstacle. It is bent downward horizontally as it interacts with winds aloft. Its actual location becomes important in cross-country operations and when approaches are being considered to pinnacles and ridgelines.

The low pressure area is created on the leeward side of the obstacle by the very passage of that wind and is the "engine" that drives the ensuing turbulence. The wind will attempt, via the path of least resistance, to fill the low. The wind must come back from the downdraft zones to attack the low-pressure areas. This initiates a pattern of turbulence, rotating on a horizontal axis, which extends leeward until frictional interaction with other air molecules slows the swirling patterns, allowing the air currents to sort themselves out (dispersal zone) and return to a stable flow (stable zone).

The updraft and downdraft zones are a result of the intervening obstacle. The remaining three zones are a result of the creation of low pressure leeward of the obstacle. If the obstacle has sharp drop-offs on either side, then the movement to fill the low is lateral, or "wrap-around," and the rotational

FIGURE 2



DEMARCATION LINES AND RESULTANT LOW PRESSURE AREAS

plane of eddies and ensuing turbulence changes to reflect this direction. The rotational axis moves from horizontal to vertical and all points in between. This is particularly noticeable around isolated, sharp peaks, shoulders (abrupt change in terrain relief) or buildings.

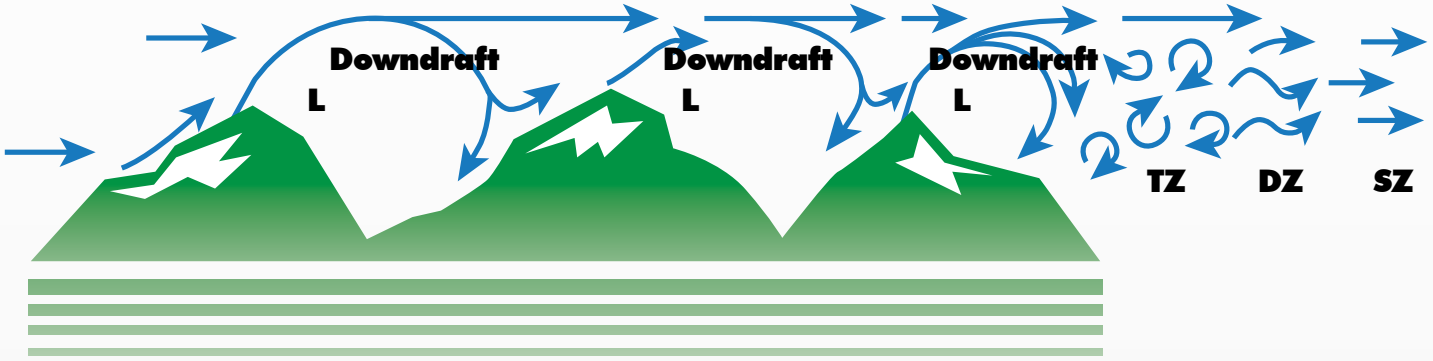
The zones expand with an increase of velocity, slope angle or impact angle and contract when the above decrease. Knowing this is important for two reasons. First, a pilot with a little experience can judge the effects of the wind by simply studying a topographical map if the upper wind's direction and velocity are known. He can plan safe routing to avoid the worst of the zones. Secondly, while en route, the pilot can judge the severity of the zones by how far leeward of the obstacle he encounters the dispersal zone (light turbulence). The farther the dispersal zone is from the obstacle, the greater the severity of the turbulence and downdraft zones.

When additional obstacles follow immediately after the initial obstacle, then some zones may be eliminated altogether. This is often the case as in the series of peaks or ridgelines as depicted in Figure 3 below.

In this situation, most of the turbulent zones are abbreviated or absent, as the turbulent, dispersal and stable zones can be eliminated on the initial and middle ridges. The key is if and where the downdraft zone impacts subsequent obstacles. The ensuing updraft zones can be compressed due to the strength of the downdrafts. Due to compression, the ensuing updrafts become very powerful. This has serious implications for aircraft transitioning narrow valleys.

In high winds, there is very little safe maneuver room in such valleys except within the narrow confines of the updraft zones or the "curl" or low pressure. Aviators needing to execute a landing or to maneuver in this confined airspace must use great caution and have intimate understanding of the environment and their aircraft. Powerful rotational patterns are trapped between the downdrafts and the upwind ridges depicted in Figure 3.

FIGURE 3



ABBREVIATED WIND ZONES AND STRIKE POINTS

An additional note must be made about Figure 3. The point where a downdraft descends and impacts subsequent terrain is known as the strike point. Due to the lateral resistance of other air molecules, the airflow at this point can only go up or down. In freshly fallen snow, this area is visible. If there are no visual indications and the goal is to remain above the strike point, then the pilot needs to fly at altitudes equal to the ridge tops. When the updraft zone is compressed as in the previous paragraph, then the pilot needs to fly laterally as close to the terrain

as safety permits to remain in the updraft. In these conditions, the route and altitude are dictated by observed or suspected conditions.

This is a brief synopsis of WTA and the Wind Zone Model, which should explain some of the nuances of mountain flying. Having an understanding of the wind and its interaction with terrain can mean the difference between success and failure. ■

(Editor's note: This article was written by then-Maj. Joshua Day when he was the commander of the High-Altitude Army National Guard Aviation Training Site in Gypsum, Colorado).

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Preparing for Winter

WILLIAM JOHNSON
U.S. Army Corps of Engineers
Little Rock, Arkansas

Winter weather can wreak havoc on roadways. That makes learning how to safely drive in snowy and icy conditions vital. And it's not just those who live in the North or Midwest who need winter driving skills. In recent years, snow even touched south Alabama, treating residents to a rare driving experience. Whether you live in Alaska or Alabama, here are some tips to help keep you safe.

Winter defensive driving is more than just maintaining control on snowy, icy roads. It begins long before you get into your car, buckle your seat belt or start your engine. Before all that, you need to be planning, doing things like checking the weather forecast and listening to the radio or TV for announcements about accidents, highway closings and road advisories. If this information is not available on the radio, call your state's highway patrol for up-to-date information. If you have access to the Internet, you can go to the National Traffic and Road Closure website at http://www.fhwa.dot.gov/trafficinfo/ and click on your state for road conditions.

When planning your route, avoid roads that can become dangerous during winter. Also, let someone know your plans so authorities will know where to begin looking if you become stranded. A tragic example of failing to do that is the Kim family. In November 2006, they took the wrong exit off Interstate 5 in Oregon and decided to try to reach their destination by a camp road that appeared to offer an alternate route. The road, however, was not maintained during the winter and they soon became lost. As the family spent the night in their vehicle, they were trapped by a winter storm. After waiting six days to be rescued, the father tried to hike to reach help. While the rest of the Kim family was ultimately rescued, the father died of hypothermia after hiking more than 11 miles in the snow. Straying from their driving plan proved fatal for this family.

Although the Kim family is an unfortunate example, it's not just mountain roads that pose a danger. Being exposed to both above and below freezing temperatures, bridges and overpasses freeze first and are susceptible to black ice. Because of that, it's important to reduce your speed when approaching bridges or overpasses and avoid braking while passing over them.

As you drive on wintry roads, always accelerate easily, turn cautiously, brake carefully and leave plenty of distance between you and the other cars. The normal two-second following rule used when driving on clear highways needs to be expanded to five or six seconds during wintry conditions.

If you have a four-wheel-drive vehicle, it's important to not become overconfident. While four-wheel-drive provides better traction than two-wheel-drive on snowy roads, it does nothing to improve your braking ability. Also, some four-wheel-drive systems can actually send you out of control in icy conditions.

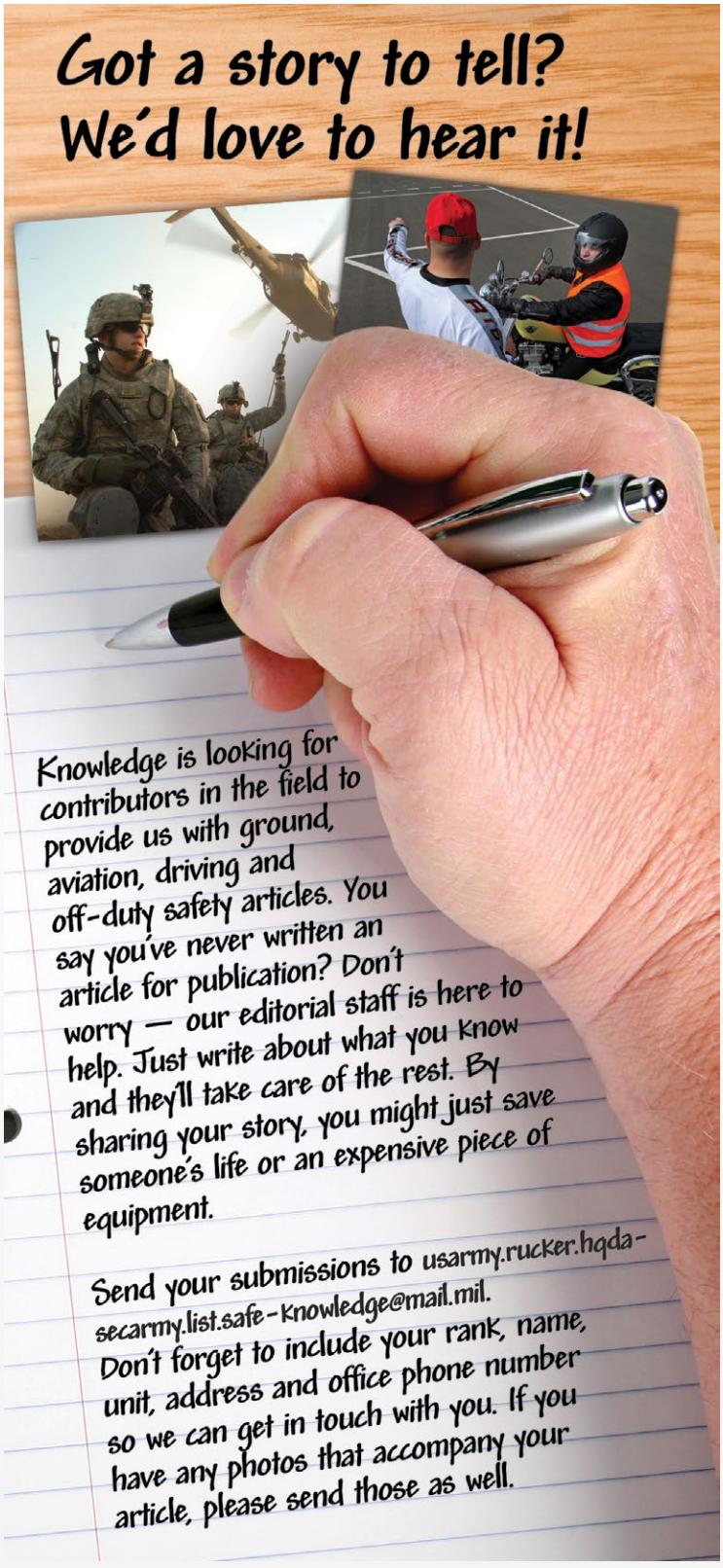
You also need to make sure your car is ready for winter's adverse weather conditions. First, ensure your tires have enough tread to grip the road adequately. Depending on the weather conditions where you live, you may want to consider mounting snow or studded tires to get the best traction. Take the time to speak with a tire professional or consult your automobile owner's manual.

Also, make sure your windshield wipers are in good condition, not cracked or worn. Check your windshield washer reservoir and make sure it's filled with a quality washer fluid designed for winter temperatures. And remember, you have to see through both sides of your windshield, so take the time to clean the inside too.

As funny as it sounds, you need your air conditioner to run effectively during winter. Air conditioners are very useful in removing condensation and frost from the inside of windows. Simply set the temperature on warm when doing this — something many cars do automatically when you choose the defrost setting.

Headlights help other cars see you and allow you to better see the environment where you're driving. To get the most out of your headlights and taillights, make sure they are clear of snow. Consider replacing the bulbs before winter begins and remember to always use your low beams when snow is falling.

While winter accidents can never be completely eliminated, preparing your vehicle and driving carefully will lessen the odds you'll end up waiting for a tow truck or ambulance. After all, don't you have better things to do this winter? ■



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Road Rules

COMPILED BY THE KNOWLEDGE STAFF

Operating a military vehicle in snowy or icy conditions can be a challenge for any driver, especially if they're not trained in winter driving techniques. Fortunately, a little preparation will go a long way toward helping you, as well as others on the road, avoid being a winter driving statistic.

Visibility

Good all-around visibility is a must for safe driving in winter conditions, so make sure you can see what's going on outside your vehicle. For optimum visibility, remove all ice, snow and fog from all windows and mirrors before operating the vehicle. Use defrosters and windshield wipers to keep the windshield free of ice, sleet, snow and fog while driving. The inside and outside mirrors should also be clean and properly adjusted.

To ensure other drivers see your vehicle on the road, use headlights during periods of reduced visibility. It's also a good idea to increase following distances between vehicles because exhaust gases can cause ice fog. Use a ground guide when backing the vehicle or where assistance is required in picking a trail in deep snow.

Traction

Good traction is another important factor that can help keep your vehicle on the road. When driving in deep snow or on ice, tire chains will help increase traction during starts and stops. Placing brush and burlap under the wheels can also help a vehicle move through snow. If the vehicle does get struck, try rocking it back and forth by shifting between a low gear and reverse. Never spin the wheels; that will only dig a deeper hole. If rocking the vehicle doesn't work, a little sand or gravel around the tires may provide enough traction to free it.

Braking

Braking in snow and ice can be tricky and requires special techniques. When stopping on an icy road, apply the brakes gently. Never slam on the brakes, which can cause the vehicle to skid. If the vehicle does begin to skid, turn the front wheels in the direction of the skid. The momentum of the vehicle will carry it in a straight line parallel to the original path, and you should be able to regain control.

Truck and convoy operations

Drivers must also exercise caution during cold weather truck and convoy operations. Improper operation through or over brush, branches, stumps and rocks may damage vehicle radiators, tires, lights and undercarriages. If unsure about the conditions of a stretch of road, stop and look at the situation before proceeding. Let the lead vehicle go through before driving more vehicles into the same spot. If the lead vehicle becomes stuck, it may have to be pulled out backward.

Vehicles that bog down in ice or break through ice should be recovered as quickly as possible to prevent them from freezing to that spot.

All vehicles should also be equipped with the driver's personal gear and field equipment; vehicle maintenance tools; operational rations for emergency use; extra engine oil, fuel and antifreeze; tow and tire chains; pioneer tools; strip maps; fire starters; highway flares; and safety kits. You never know when you might need to remove snow from around the wheels or cut some brush to aid in traction.

Conclusion

Snow and ice can make any trip more difficult and require a vehicle operator to have the skills to safely navigate the road. Use extra care when you encounter adverse weather so you can arrive alive at your destination. For more information on preparing for cold weather vehicle operations, as well as maintenance and service, see Field Manual 55-30, Army Motor Transport Units and Operations, Appendix G, Vehicle Operations in Adverse Weather. ■

FYI

When materials essential to motor vehicle operations are exposed to low temperatures, the following occurs:

- Rubber becomes stiff and brittle. Radiator and heater hoses may crack and break if handled roughly.
- Water freezes and expands. This expansion could split radiators or crack engine blocks.
- Canvas becomes stiff and brittle, making it difficult to fold, unfold or use without damaging.
- Glass conducts heat poorly and may crack or shatter if subjected to a sudden increase in temperature. Do not apply sudden, intense heat to clear or deice vehicle windows or windshield.
- Engine oil become thick and flows poorly.
- Grease becomes hard and thick and loses lubricating properties until it is warmed by normal operations.

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Snowblind

CHIEF WARRANT OFFICER 4 RONALD W. MENOHER
NG-J32 Counterdrug Aviation and Safety
Arlington, Virginia

Author's note: This incident occurred in Alaska a long time ago when I was flying as a non-crewmember in one of five legacy aircraft (OH-58A+) in formation. We were returning home after spending two weeks living in tents with temperatures reaching minus 50 F during a field training exercise.

The flight was to take about an hour and a half, beginning at sunrise, which at this particular time of the year in Alaska was roughly 11 a.m. The sun never really gets much above the horizon, so the sky appears as dusk and lasts about six hours. My company had very few pilots in command available to fly the five aircraft. The lead aircraft had our standardization instructor pilot and the company commander, while Chalks 2-5 were made up of a PC and an enlisted non-crewmember (crew chief) in the left seat (co-pilot station). This was not uncommon for cross-country flights.

The weather had been checked and the forecast called for the usual scattered snow showers with an overcast sky and good visibility throughout the route of flight. Lineup and takeoff went well, and all five aircraft launched and leveled at about 800 feet above ground level. It was not long before the first light snow shower was upon us and visibility decreased to about five miles. I was in Chalk 4, and all of the other aircraft were within sight.

As we pressed on, the light snow shower gradually turned in to what we call in Alaska a snow squall, which decreased visibility to less than two miles. If you took your eyes off the aircraft in front of you, it was very difficult to reacquire them. The ground was snow covered with little contrast and the sky was overcast. It was snowing heavily, which produced a dangerous whiteout condition.

I was just saying to my pilot how Chalk 2 was climbing and descending erratically when its pilot radioed an expletive-filled message that made it clear he was having trouble because of the weather. To this day, I swear his aircraft flew just under and past Chalk 1 based on size-distance indications. Instantly, the SP in flight lead announced what no one in the flight wanted to admit needed to be said, "Execute break-up and return to the airfield," which meant we were not getting home today.

The company had practiced the break-up exercise enough to be proficient, but never under the conditions we were now flying in and with two pilots in separate aircraft experiencing symptoms of spatial disorientation. The events that followed for Chalks 2, 3 and 5 were nothing short of miraculous, as well as horrific, and hard to listen to for us and flight lead.

Lead and our aircraft made the turn and the climb without incident. Chalk 2's pilot, however, had SD to the point he had to pass the controls to his non-aviator crew chief. It was fortunate the SP placed these two crew chiefs with those two low-time pilots. The crew chiefs actually knew how

to fly because the unit pilots always thought it best to teach them given the common practice of pairing them with PCs in this single-pilot aircraft.

That said, Chalk 3 inadvertently descended during the 180 degree turn and struck the tree tops, which broke out the chin bubble, snapped off the FM antenna and ripped off the fuel cap before the crew chief came on the controls and recovered the aircraft to altitude. Chalk 5 also lost ground reference and had to declare inadvertent instrument meteorological conditions without the aid of radar. He and his crew chief managed to recover as a single pilot utilizing the instrument approach. I think he sucked down three or four cigarettes after landing before even speaking to anyone.

Chalks 2 and 3 gradually returned to the airfield, mostly flown by their non-crewmembers. The after-action review was interesting and full of praise for those non-crewmember heroes.

The following day we were able to return home without incident. And guess who received some flight instruction along the way? Yep, me! That's the reason I am a pilot today. Even though this incident occurred 26 years ago, I can still picture everything vividly. I'm sure it's helped shape my decision process as an aviator for the last 24 years. ■

A Handful of Danger

RETIRED ARMY SGT. 1ST CLASS CINDY R. MCCLENDON
Fort Buchanan Garrison Safety Office
Puerto Rico

It was Thursday afternoon and my company was having its end-of-the-day formation. I was looking forward to the beginning of a four-day weekend. When it was time for the safety briefing, my company commander spoke first, saying the usual, "Don't drink and drive, don't drink underage, etc." Next up was the first sergeant. He began by saying how important every Soldier was to the company. From that point on, I didn't hear a word he was saying because I was too busy mentally planning my weekend. I was thinking about getting my hair and nails done, what I would wear to the club that night and calling my boyfriend to arrange to meet up afterward.

Finally, the first sergeant finished his safety briefing and we were released until Tuesday morning. I ran to my room, changed out of my uniform and dashed to my car. Traffic was congested on the road, but that didn't prevent me from picking up my cellphone and trying to call my boyfriend to make arrangements. I tried to call him twice, but got no answer. While I was dialing his number a third time, I almost ran into the car in front of me. Oops! Still, I got no answer.

I got my hair and nails done and tried calling my boyfriend again, but the phone just rang. While driving back to post, I decided since I couldn't reach him on the phone, I'd just send him a text. I began texting as I drove, looking down at the phone, pressing two letters and then looking back up at where I was going. This went on until I looked up and saw I'd drifted into the oncoming lane and was about to hit a car head-on. I quickly dropped the phone and pulled back into my lane. However, when I dropped my phone, it landed on the passenger-side floor. Now that I was back in my lane, I wanted to finish my text. I tried several times to reach over and pick up my phone, each time taking my eyes off the road for just a second or two.

I finally reached my phone and consoled myself with the thought, "I only drove off the road once or twice." I had started texting again when I suddenly heard a car horn. I looked back up at the road and quickly hit my brakes. I'd hit the side of a car in an adjacent lane. I remember seeing a "Baby on Board" sign on the side window. I hoped there wasn't a baby inside.

I immediately got out of my car, only to hear the baby crying. I thought, "What have I done?" I called 911 and then asked the lady in the car, "Are you and the baby all right?" Her reply was, "If you hadn't been texting and driving, we'd all be all right." I called my first sergeant, who immediately came to the scene of the accident. When the police asked what happened, the lady didn't tell them I was texting while driving; however, she had told my first sergeant. He said, "Didn't you listen to my safety briefing? I said absolutely no

texting while driving. It's just as bad as drinking and driving!"

My first sergeant was very disappointed with me. He said, "Up until this point, I thought you were a responsible Soldier." This made me feel even worse. I had plenty of warning signs on the road that day while I was driving, but I chose to ignore each one.

How could I be so irresponsible? My car was wrecked, I injured two people, my first sergeant was disappointed and the company commander took away my four-day weekend and many more to follow. Still, I consider myself lucky. I could've killed myself and two other people.

Since that day, I've never again talked or texted on a cellphone while driving. I pay close attention to safety briefings and remind my fellow Soldiers to never text and drive. After all, is it really worth a collision to have a conversation? ■

Lost in Space

STAFF SGT. KIRK JOHNSON
Kenner Army Health Clinic
Fort Lee, Virginia

How many times has a supervisor sent a young private into a confined space without first assessing the hazards? The aviation community has always been aware of the dangers of confined spaces when it comes to aviation fuel cells. But how many ground maintenance personnel are aware of the dangers that may exist in the water buffalo or fuel tanker even when they are empty?

Sometimes, we might think of a task as simple when, in fact, it's not. Let's say a private is sent into a fuel tank, discovers the atmosphere is compromised and collapses. What do you do — send someone in there to save him, only to have that person collapse too? Half the confined space deaths happen to would-be rescuers. Even more are reported by the employer as heart attacks or other medical issues.

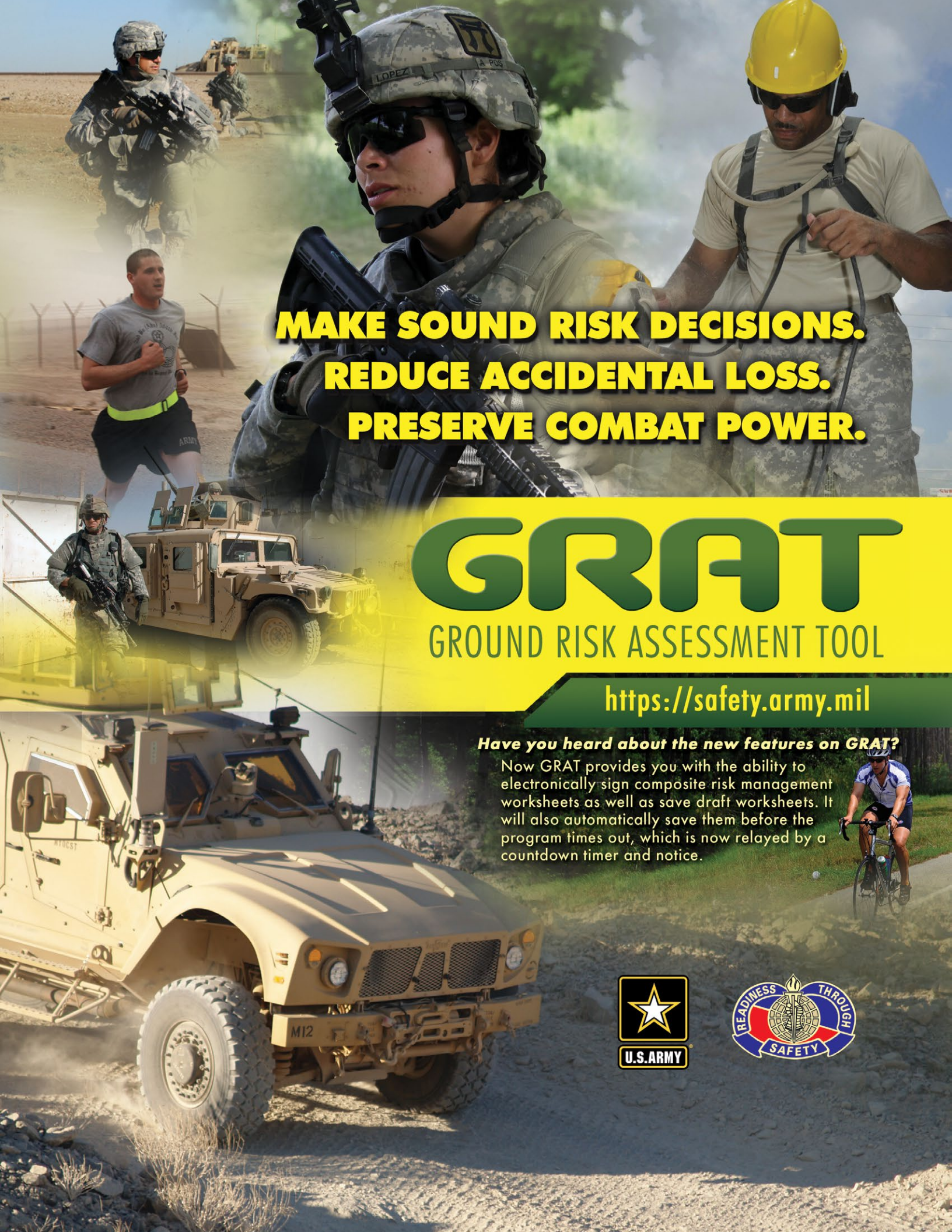
I once took a college class on urban technical rescue. We were allowed to dangle from a rope from a power plant while four stories above the ground; however, we weren't allowed to do any confined space work. The fire department and college system didn't want to take responsibility for confined space training, even though they had a controlled trainer on hand to do the work. That's how dangerous it can be.

To spread the message about confined space hazards, I held a class in my home state for the aviation community. The turnout was great, but I had to convince several of the shop chiefs that they also did confined space work. I finally persuaded them to send people to the class. However, they still do not consider going into a HEMTT or water buffalo to be confined space work. Are we failing to train shop chiefs about what is expected of them or their personnel?

As professionals, we need to look at everything that can injure or kill Soldiers. Do we? How often do we look at safety issues from outside of the box? We view our training and jobs as something we have to do to check the block. Why can't we conduct training outside our comfort zones?

We have to view confined spaces as hazards. We have to repair systems — whether fuel or water, ground or aviation — and it requires training for all who are involved, including supervisors. There is confined space training available, and we must seek it out to perform the mission safely.

We, as leaders, need to know what is required of us. Sometimes we get so mission-focused that we fail to allow ourselves and our personnel to get the training we need. It's easy to ignore safety when we don't look at the hazards. ■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Stumbling into Support

MAJ. J. ANDREW BIRMINGHAM
F Company, 1-171st GSAB (MEDEVAC)
Mississippi Army National Guard

When I became a company commander in November 2013, I had no idea what my requirements would be over the next three years. I was taking command of F Company, 1-171st, an Army National Guard UH-60A/L company with two FSMPs (five aircraft), an E Detachment and a D Company Detachment. I had a very young and eager crop of aviators, platoon leaders and NCOs. What they lacked in experience they made up for with enthusiasm and dedication.

The company was short on senior warrant officers. We did not have our full complement of pilots in command, tracked aviators or qualified flight paramedics. The first sergeant and I would need to train all sections and build our experience base over time. We'd have to focus on individual MOS training as well as realistic collective training that included point-of-injury evacuation, tail-to-tail patient transfers and battlefield circulation of medical personnel and supplies.

We developed a robust and multi-tiered training plan to build individual and collective knowledge, unit cohesion and experience across our formation. Lastly, we adjusted the unit's mission-essential task list to include our stateside mission of humanitarian assistance in accordance with the approved missions in Army Regulation 40-3. However, we focused more on the warfighting tasks in our METL.

At our first collective training event in April 2014, we participated in the Emerald Warrior 2014 exercise in south Mississippi. This exercise was a joint training event with U.S. Marine, Navy, Air Force and Israeli air force units. We were conducting POI evacuations with ODA teams, tail-to-tail transfers with C-130s and C-17s, area medevac coverage and dedicated coverage for named operations. Additionally, we were providing fire suppression support to the Bienville National Forest. I wouldn't say our first training event went smoothly, but it was manageable and we were making progress — or so we thought.

In late April, a major spring weather system worked its way across the country, hitting northern Mississippi with strong thunderstorms and tornadic activity. The most devastating tornado was an EF-4 that tore a path across four counties and devastated the city of Louisville. This tornado was on the ground for 34 miles and resulted in 10 fatalities, multiple injuries and many destroyed homes and businesses.

The unit had spent its first year building the company and preparing for a combat deployment. With significant personnel augmentation, the second year was spent in Afghanistan. We'd never conducted a humanitarian support or Defense Support of Civil Authorities mission, so this would be our first foray into DSCA operations. Unfortunately, we weren't ready.

The Mississippi Emergency Management Agency requested support, and we were tasked by our director of military support with providing four medevac

aircraft. At the time, we had two fully mission capable medevac aircraft. With the help of our state's air assault company — A Company, 1-185th Aviation Regiment — we were able to piece together four airframes and crews for response. We immediately realized the following shortcomings:

- Medical equipment sets were incomplete.
- We had no compliment of meds and no mechanism to draw them during an emergency. We only had training packages.
- Aircraft medical configurations were not standardized.
- We were unsure of the mission approval process and FMA requirements for DSCA support operations.
- We had no air-to-ground communications capability with civilian ground crews.
- We were not prepared to work with civilian medical professionals and first responders.

Despite these shortcomings, we were able to integrate with the incident commander and were on station and ready to receive missions as soon as the storms passed. As a testament to MEMA and the first responders in northern Mississippi, they responded to all emergencies, recovered the victims, treated the wounded and provided essential services without needing aviation support. This turned out to be the most realistic alert and launch process we could have hoped for. This disaster response was the beginning of the company's indoctrination into coordinating with civilian authorities.

Upon returning from the disaster response missions, we began to make adjustments. We coordinated with the state surgeon, the University of Mississippi Medical Center and the J4 to create a line-item meds package for emergency response. We coordinated storage of these meds packages at certified medical facilities. We fine-tuned medical protocols and multiple formularies. We standardized the MES kits and mandated that they would be loaded in the aircraft during all missions, to include ATM training. This was especially important during our fielding of the Integrated Modular Medical Support System. We also trained LNOs to support incident commanders and provided communications capabilities to improve air-to-ground coordination.

In addition to these adjustments, key leadership within the company attended the Search and Rescue Workshop at College Station, Texas, in 2014, and the Helicopter Aquatic Rescue Team Conference in Raleigh, North Carolina, in 2015. We developed a close working relationship with the DOMS office, which manages MEMA requests and allocates missions for the state. We also conducted face-to-face coordination and integrated training with MEMA executives and operations personnel. This culminated in the summer of 2016 with a combined training exercise that coordinated operations with F Company, 1-171st MEDEVAC and the MEMA SAR Task Force personnel and equipment.

We conducted slow, methodical and deliberate training that included equipment and capabilities familiarization, cold/hot load training, coordinated ground and air SAR missions, patient triage and prep for flight, and hoist operations. The ultimate goal is to build a fully integrated, statewide civil/military SAR Task Force that can rapidly deploy to save life, limb or eyesight during any state natural disaster.

During the two years after the 2014 tornadoes, F Company, 1-171st, conducted five SAR missions over land, a SAR mission over the Gulf of Mexico for lost swimmers, a SAR mission on the Mississippi River for lost fishermen, damage assessment flights for flood response and numerous fire-suppression missions for the U.S. Forest Service.

We are still learning with every mission and make mistakes every day. However, with each and every mission, we are improving our coordination, planning and mission execution capabilities. As I leave command, I often reflect with great pride on what my leaders and Soldiers have accomplished. ■

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A Reason to be Thankful

SGT. 1ST CLASS MARK C. STEINFELD
Forces Command
Fort Bragg, North Carolina

Many of us will hit the road this holiday season to spend time with family and friends. While you're planning for the good times, don't forget to plan for a safe road trip too.

A few years ago, my family and I hit the road from Fort Stewart, Georgia, to spend Thanksgiving at my parents' home in Florida. We'd made the four-hour drive dozens of times, and everything had become automatic. We knew the route, speed limits and construction zones.

I was feeling pretty miserable, so I was in the front passenger seat. I reclined the seat, opting to not wear my seat belt for the sake of comfort, and drifted off to sleep. I woke up two hours later to the sound of car horns blaring as we slowed down on Interstate 295 near Jacksonville, Florida. We'd encountered dense traffic and rain — a deadly combination. I had an overwhelming urge to put on my seat belt and did so. Less than five minutes later, we were doing at least 40 mph when we skidded into the back of a tractor-trailer. As we were skidding, I felt utterly helpless and I remember yelling, "Brace yourself!"

Time seemed to move slowly during the impact and I was acutely aware of each detail. I felt small ripples and vibrations as the hood buckled. Suddenly, we came to a violent stop. The air bags deployed, hitting my face hard enough to momentarily knock me unconscious. When I awoke, white powder from the air bags was everywhere. Most importantly, though, the seat belt worked and kept me from being thrown into the windshield or ejected forward between the car and the trailer.

Physically, I suffered only bruised ribs and a totaled car, while the driver had only minor scratches to her hands. My then 9-month-old daughter — who was sleeping in the backseat in her properly installed, rearward-facing car seat — was uninjured. The next

FYI

According to Army Regulation 385-10, 11–4. Safe motor vehicle operations:

(3) Occupant protective devices will be worn by all Soldiers driving or riding in a PMV whether on or off the installation.

(7) According to AR 600–8–4, investigating officers may consider failure to use occupant protection devices, to wear required protective equipment, or to comply with licensing or operator training requirements in making line-off duty determinations for death or injuries resulting from such nonuse of equipment or noncompliance with requirements.

day, which happened to be Thanksgiving, we sat at the dining room table and said a prayer of thanks that we were alive and not planning a funeral.

When I tell this story, many say it's a miracle I'm still here. Certainly, if I hadn't buckled my belt when I did, I wouldn't have survived. How many people are fortunate enough to get the chance to put on their seat belts just before they need them?

I'm not going to count on being that lucky twice in this life. Now, when I take a road trip, I count on everything I have — not just my air bags, but also my seat belts — to protect me should there be a next time. Some things are too important to leave to chance. ■

Don't Leave Your Safety to Chance

Before hitting the road, hit the U.S. Army Combat Readiness Center's website at https://safety.army.mil/ and check out the Travel Risk Planning System, otherwise known as TRiPS. By putting safety into the front end of your planning, you won't have to count on luck.

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The Key to Success

RETIRED COMMAND SGT. MAJ. JOHN GIOIA
Fort Bragg, North Carolina

If a Soldier ever was to ask the question, "How do I survive a 15-month deployment?" the answer would be one word: "discipline."

Discipline is the cornerstone upon which our Army was built. All Soldiers, for the most part, understand what the standards are, but some do not possess the discipline to fulfill their obligation in achieving the standard. Whether we are talking about the discipline to wear the uniform correctly — both inside and outside the wire — or the discipline to do the hard right over the easy wrong, it's all about personal choice.

While out on battlefield circulations, you will find it is very rare that a Soldier does not fully understand what the standards are. In fact, when I made an on-the-spot correction, more often than not they told me, "Sergeant major, I know I am wrong." What it really boils down to is the Soldier does not possess the discipline to meet that standard.

What I really have an issue with is the noncommissioned officer who doesn't enforce the standard. NCOs don't get an option to say, "Well, I'm going to take a break today and not make the correction," and then decide to start enforcing the standard the next day. NCOs must always enforce the standard. Some Soldiers will meet the standards only when sergeants enforce them. It takes moral courage to walk up to someone who is wrong and say, "Soldier, fix it." And that is the job of a leader, not a follower.

Having the pride and character to be disciplined, in the end, can help a Soldier successfully complete the mission. Now, don't get me wrong; the enemy gets a vote, but think of the decisions a Soldier makes daily on the battlefield. A Soldier decides his attitude for the day, how he wears his uniform, how he respects leaders, how he treats the opposite sex and, in the end, how he conducts himself ethically and morally.

In dealing with an escalation of force, a Soldier decides to shoot or not to shoot. In dealing with his individual force protection, a Soldier decides whether he is going to wear his proper kit — complete with gloves and eye protection. In dealing with his individual weapon, a Soldier decides whether he is going to be careful or negligent. In dealing with safety, a Soldier decides whether to take a shortcut — and shortcuts, in this environment, can be deadly.

All of these decisions Soldiers make on their own. We know that a leader is responsible for everything his Soldiers do — or fail to do. Leaders are great at enforcing standards and some would argue that a leader can make a Soldier disciplined. I submit that it is an accurate statement. You have to admit that it sure would be great if every Soldier practiced good Army discipline. Instead, there are some who like to take

shortcuts or try to manipulate standards to benefit themselves.

As for enforcing standards, it doesn't matter what standard we're talking about because a standard is, after all, a standard. It's set for a reason — because somebody before us thought about an issue and said, "You know what we need here to prevent this from happening again? We need a standard." So, we've already learned the hard way once. Why should we have to learn it again and again and again — especially if it comes at the cost of a Soldier's life? That's what makes our Army great. Think about it. There's a standard for everything we do; we just have to have the discipline to meet those standards.

So, how do you survive a 15-month deployment? The answer is simple. You do what's right — morally and ethically — every day. You possess the moral courage to be disciplined. You do what is right when no one is looking — every day for 15 straight months. You do not succumb to taking shortcuts that may get you or your battle buddies wounded or killed. ■

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Trouble Awaits

CHIEF WARRANT OFFICER 2 TIM CARROLL
1-17 Cavalry, 82nd Combat Aviation Brigade
Fort Bragg, North Carolina

It was just another routine training flight in the local Fort Bragg flying area. We were conducting a night team flight supporting the local Air Force combat controllers in what is known as the Northern Training Area. All was well and, upon the conclusion of our mission, we landed to kick out the left-seaters to give the guys a face-to-face debrief on how it went for both sides.

We were getting close to our end-of-the-mission block before we landed but decided we should debrief these guys anyway. By the time the left-seaters got back, we were about 10 minutes out from our downtime, so they strapped in as quickly as they could and we got on the move.

The NTA is inside the core of Pope Army Airfield's Class C airspace, and the area that we were specifically operating in is located about three nautical miles north of the field. Normally, we use a corridor to recover to Simmons Army Airfield that keeps us out of Pope's surface base and underneath their shelf, but they frequently let us transition direct depending on the fixed-wing traffic at the field.

I was right-seat lead and made the call to Pope with my position (approximately two miles north of the field) and requested to transition direct to Simmons.

"... don't blindly follow ATC clearances. A lot of times they are no more experienced than we aviators."

They obliged and advised me that a C-130 was on an eight-mile final for landing on Runway 23. They told me to call when I was one mile north of the field.

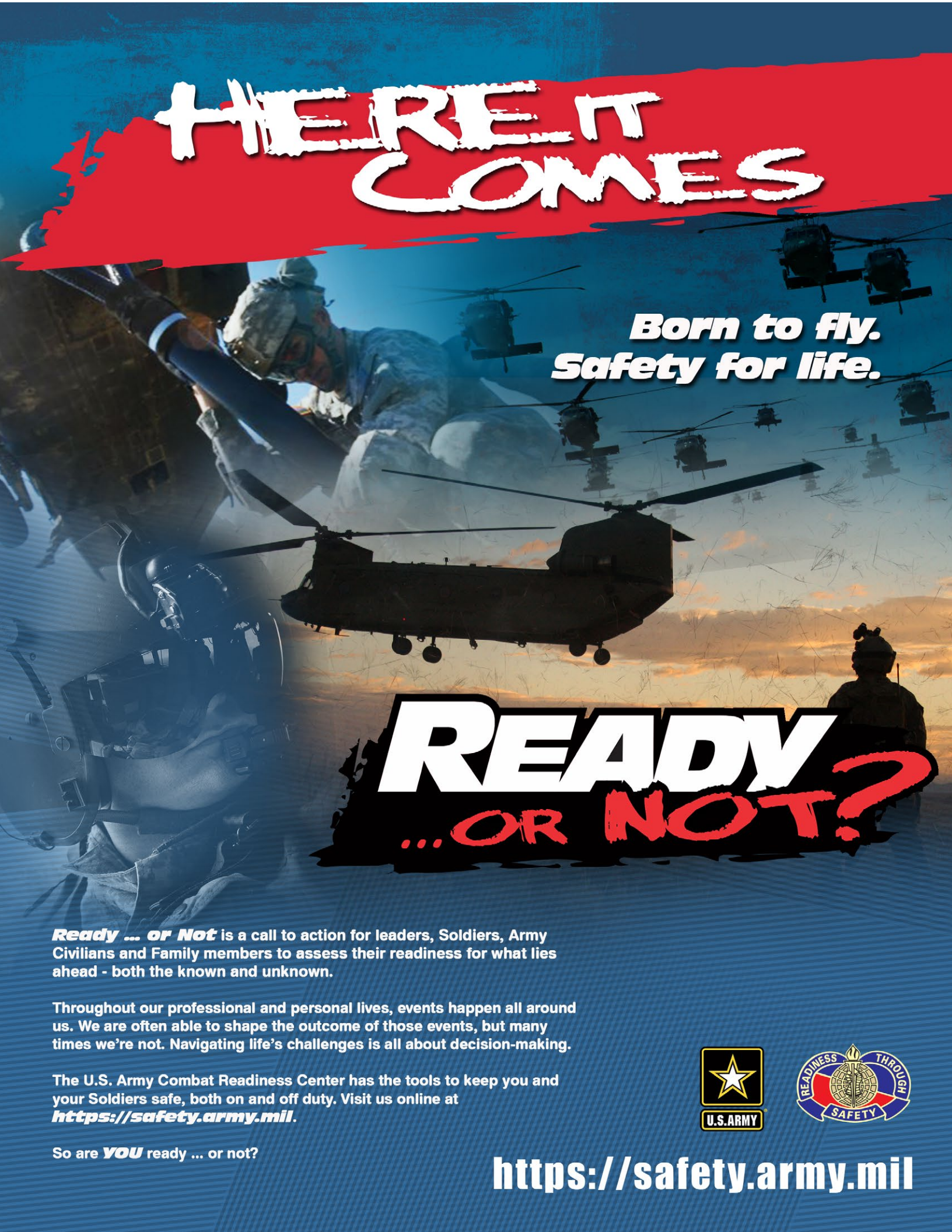
The path from where we were in the NTA direct to Simmons basically takes you about ½ mile east of the approach end of Runway 23. I made another call to Pope when we were one mile north, and the controller advised us that the C-130 was on a four-mile final and that I should expedite. Anyone who is familiar with the OH-58D knows that "expedite" for us is not even remotely close to what one would expect from a high-performance aircraft; nevertheless, we pulled in what we had in an attempt to cross the centerline prior to the C-130 arriving.

It wasn't until we were about ¼ mile from centerline when I spotted the C-130, too close for comfort, and realized this

was not going to end well if we continued our course. I alerted trail and banked hard right 180 degrees to avoid the C-130. I then called tower to let them know I would be holding to the north for the landing traffic.

Although not catastrophic, we were able to take away a few lessons learned from this incident. First, take your time. Running late and trying to get back fast is what got us into the situation. Had we planned better we could have taken the long way home and it would never have been an issue.

Second, don't blindly follow ATC clearances. A lot of times they are no more experienced than we aviators. If your gut is telling you that it's a bad idea, then it probably is. If you don't like what they give you, don't be afraid to request a different clearance to keep yourself and your crew out of harm's way. ■



Ready ... or Not **is a call to action for leaders, Soldiers, Army Civilians and Family members to assess their readiness for what lies ahead - both the known and unknown.**

Throughout our professional and personal lives, events happen all around us. We are often able to shape the outcome of those events, but many times we're not. Navigating life's challenges is all about decision-making.

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